5568 5569
5570 5571

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5570

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. ..... Office No. 5568-5570 5569 5571

LOCALITY

State South Carolina

General locality Calibogue

Locality Sound

1934

CHIEF OF PARTY

C. A. Egner

LIBRARY & ARCHIVES

DATE .....

B-1870-1 (1)++

5568
5569
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5568 5569 5570 5571

Form 504
Rev. Dec. 1933

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Hydrographic } Sheet Nos 18,19,20,21

5568
5569
5570
5571

State South Carolina

LOCALITY

Calibogue Sound

and Approaches

1934

CHIEF OF PARTY

C. A. Egner

Form 537
Ed. Dec., 1930

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 19

REGISTER NO. 5568

State South Carolina

General locality Calibogue Sound

Locality May River

Scale 1/10,000 Date of survey June, 1934

Vessel OWANEE and U-323 (Field Party #23)

Chief of Party C. A. Egner

Surveyed by M. G. Elliott, Jr.

Protracted by V. F. S.

Soundings penciled by V. F. S., G. F.

Soundings in ~~fathoms~~ feet

Plane of reference Mean low water

Subdivision of wire dragged areas by

Inked by Elbert W. Smith

Verified by Elbert W. Smith

Instructions dated December 5, 1933

Remarks:

U. S. GOVERNMENT PRINTING OFFICE: 1931

Form 537
Ed. Dec., 1930

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 2C

REGISTER NO. 3569

State South Carolina

General locality Port Royal Sound

Locality Mackay Creek and Broad Creek

Scale 1/10,000 Date of survey June-July, 19 34

Vessel OWANEE, U-323 (Field Party #23)

Chief of Party C. A. Egner

Surveyed by M. G. Elliott, Jr.

Protracted by Schultz, Fortune

Soundings penciled by Fortune

Soundings in ~~fathoms~~ feet

Plane of reference Mean low water

Subdivision of wire dragged areas by

Inked by J.A. McCormick

Verified by J.A. McCormick

Instructions dated December 5, 19 33

Remarks:

U. S. GOVERNMENT PRINTING OFFICE: 1931

Form 537
Ed. Dec., 1930

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 21

REGISTER NO 5570

State South Carolina

General locality Vicinity of Tybee Roads

Locality New River and May River Large

Scale 1/10,000 Date of survey July, 19 34

Vessel OWANEE, U-323 (Field Party #23)

Chief of Party C. A. Egner

Surveyed by M. G. Elliott, Jr.

Protracted by G. F. and C. A. E.

Soundings penciled by G. F. and C. A. E.

Soundings in ~~fathoms~~ feet

Plane of reference Mean low water

Subdivision of wire dragged areas by

Inked by R. S. BAGWELL

Verified by R. S. BAGWELL

Instructions dated December 5, 19 33

Remarks:

U. S. GOVERNMENT PRINTING OFFICE: 1931

Form 537
Ed. Dec., 1930

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 18

REGISTER NO. 5571

State South Carolina

General locality Vicinity of Tybee Roads

Locality Calibogue Sound Range

Scale 1/10,000 Date of survey June, 19 34

Vessel OWANEE and U-323 (Field Party #23)

Chief of Party C. A. Egner

Surveyed by M. G. Elliott, Jr., Surveyor

Protracted by G.W.S. V.F.S.

Soundings penciled by V. F. S.

Soundings in ~~fathoms~~ feet

Plane of reference Mean low water

Subdivision of wire dragged areas by _____

Inked by ~~V. F. S.~~ James M. McQueen Jr.

Verified by James M. McQueen Jr.

Instructions dated December 5, 1933

Remarks: _____

U. S. GOVERNMENT PRINTING OFFICE: 1931

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEETS

NOS. 18 H-5571, 19 H-5568, 20 H-5569, 21 H-5570

INSTRUCTIONS:

Undertaken as part of Instructions to Field Party #23 dated December 5, 1933.

PURPOSE:

To revise all existing surveys and make a new survey of streams never previously surveyed.

LIMITS AND JUNCTIONS:

This report covers a group of sheets in the vicinity of Calibogue Sound and approaches which can, for convenience, be considered as a unit.

They cover that area northeast of Savannah joining sheet #16 at the S. W. corner of Daufuskie Island and include all the navigable waterways around Daufuskie Island and tributary to Calibogue Sound. They extend in the N. E. direction to an overlap with work of the NATOMA in 1931 (Skull Creek, May River, and Upper Calibogue Sound) and carry the streams back inland to the head of small boat navigation.

Four sheets were necessary to cover the area. #18 joins #16 near triangulation station COW and includes the New River to Long. 81-55, Ramshorn Cut (U.S.E.D.), the Cooper River the lower part of Bull Creek, and Calibogue Sound proper from Marsh Island to the outside coast.

#19 joins #18 on the south and completes Bull Creek, the May River to a point 2 miles west of Bluffton, and Calibogue Sound from the lower end of Marsh Island to the NATOMA work of 1931.

#20 is a fractional sheet in two parts, viz. (a) Mackey's Creek, and (b) Broad Creek.

H5570
#21 is likewise a fractional sheet covering (a) the upper part of New River and (b) the western end of May River.

METHODS:

All sounding was done with the 10 lb. hand lead operating from the houseboat OWANEE, or the smaller launch U-323.

All hydrography except on sheet 21 and parts of 20 (b) was controlled by sextant fixes on well located signals. On sheet #21, H5570 the upper part of New River was controlled partly by sextant fixes on signals spotted from aerial photographs and partly by direct spotting of location from the shoreline. The western part of May River was controlled in a similar manner. The boat-sheet for this fractional sheet #21 H5570 was constructed in the manner found satisfactory in previous work on the Ogeechee River. Since it was advisable to take up the survey of these relatively unimportant streams well in advance of a reduction of the photographic 5 lens shoreline from a scale of approximately 1/21,500 to 1/10,000, a 2 to 1 reduction was made here by simple pantograph to a scale of approximately 1/10,700. This shoreline together with a pantographed projection was used on the boat-sheet, signals were built and spotting on photographs in the field and plotted on the sheet. Wherever possible they were built in straight lines to increase the accuracy. The smooth sheet was later constructed on a true 1/10,000 scale, these signals respotted when the reduced shoreline became available and replotted ~~when the~~ in the correct position on the smooth sheet. In the upper reaches of the river where this method could not be followed, locations were noted by reference to the shoreline.

A further departure from conventional methods was employed in Broad Creek (Sheet 20 b). For this unimportant creek on Hilton Head Island, and east of the single lens flight, not even the 5-lens shoreline on a scale of 1/21,500 was yet available when it became advisable to complete the survey of the area.

The lower portion was controlled by rigid sextant fixes on signals located by planetable intersection. Above this where the creek turns abruptly to the eastward, it happened that a large share fell within the B or center-line prints of the 5-lens flight at 21,500 feet. Since distortion was comparatively small, a boat sheet was constructed directly by tracing shoreline from these prints, and though somewhat distorted gave a sufficiently satisfactory boat sheet to execute the hydrography.

Signals were spotted as noted in the previous paragraph and transferred to the boat sheet, wherever possible for sextant fixes; in the sections which fell off these B prints locations were gotten by simple spotting from the shoreline taken from the distorted wing prints. The smooth sheet is, of course, on a true 1/10000 scale and all positions reduced to correct (or approximately correct) locations thereon.

All shoreline appearing on the 4 smooth sheets is photographic, reduced from the single lens photos through the Inside Passage and from the 5-lens photos reduced to 1/10000 on the outlying areas.

Sounding was done parallel with the channels and with the current in depths over 18 feet. Sounding was done in some areas against the current in water of less than 18 feet depth, as it is not believed appreciable error results from bow of the leadline up to 3 fathoms. In the more open area of Calibogue Sound lines were run on natural ranges.

Except in certain areas where it could be done effectively (around Calibogue Sound where there is a definite beach line) no attempt was made to deliniate the zero depth curve in the channels. In most cases the high and low water lines are so superimposed that it is quite out of the question to run a boat so close inshore; it is also obvious that in such cases the zero curve would serve no useful purpose. In small channels only a center line (or one where the deepest water is--on the outside of curves, etc.) was run. In larger channels 3 or 5 lines of soundings were put in depending upon the depth. In wider areas the channels were fully developed.

CONTROL--HORIZONTAL:

That part of this area in which falls the Inside Route is quite well controlled by triangulation. Calibogue Sound came within the Coastal Coordinating scheme and detailed 3rd order work of the NATOMA in 1931. This together with a few stations of the 1st order Coastal Arc on the high ground back from the coast and additional 2nd order stations of the Coastal Coordinating scheme of C. M. D. in 1932, as well as a few stations in the Bluffton area in the spring of 1934 provide this area with rather an abundance of basic control. Five complete and parts of two additional Bristol board topo. sheets were laid out over this area. Sufficient signals were built (many of them ranged in line as has elsewhere been found advantageous) and located by intersection to provide strong sextant fixes for the hydrography. Likewise this abundance of triangulation, already established, was a boon to the photo-compilation party and brings to mind the great advantage of adequate control for aerial photograph reduction.

CONTROL--VERTICAL:

Basic reference Standard tide gauge at Ft. Screven, Tybee Island. Four portable automatic gauges were established, (1) near triangulation station COW on New River on the S. W. point of Daufuskie Island (2) at the old Lighthouse Dock on the N.E. point of Daufuskie Island (3) at triangulation station SOUTH (the lighted beacon at the N. end of Calibogue Sound (4) at Bluffton city dock.

The plane for each was determined by simultaneous comparison with Ft. Screven, except in the case of (3) above. The plane determined in 1931 was used again as bench marks were recovered.

The area was divided so as to take best advantage of these gauges. Division lines appear on the respective boat sheets. No time nor height correction was applied in areas between the gauges. While it is felt that this is quite appreciable in the

upper part of New River, the lack of importance of that stream made it inadvisable to establish a gauge in it.

For these four sheets tidal records have been grouped together as a part of this collective report.

THE INSIDE ROUTE:

Approximately ten miles of the Inside Route lies within these sheets. That part is therefore relatively important, and the survey has been executed in more detail than in outlying sections. This passage traversed Calibouge Sound, thence the Cooper River, Ramshorn Cut, and part of the lower New River. The route is well marked by beacons, both lighted and unlighted and offers no difficulty in navigation except in Ramshorn Cut.

Ramshorn Cut is an artificial dredged passage between the Cooper and New Rivers, getting its name from a small creek called Ramshorn Creek (from its shape) which was utilized by the U. S. Engineers in making the cut. This cut is quite narrow and has one abrupt turn which longer vessels experience difficulty in negotiating, particularly at low tide. The depth here is maintained with dificulty at 7½ feet due to caving in of channel edges from tidal action and wash from boats. The bottom is very soft, however, and dragging in this cut rarely does damage.

CHANGES SINCE LAST SURVEY:

The more important channels show some changes from the previous surveys due to action of the strong tidal currents, particularly in Calibogue Sound and approaches. There has never been a photographic survey of the shoreline previous to this one so a direct comparison is not possible. In May River the bars have changed considerably; the shoaler areas in Calibogue Sound below Marsh Island and Brick Island are changed; Hague Point is undermining and washing away; and Braddock Point is like all similar points along this coast wearing away

on the western edge and building out on the seaward side.

The chart is radically wrong in May River west of Bluffton; this river extends four miles west of that settlement, and apparently always has.

Attempts to follow the chart in laying out sheets has frequently caused grief in this locality as elsewhere. Information obtained this year, which will form the basis for improved charts of the less important streams will prove valuable in many instances.

WORK OF THE U. S. E. DEPARTMENT:

Ramshorn Cut is periodically surveyed by the U. S. E. Department providing basis for maintaining this cut at the proper depth and width. Our sounding was done only to make a complete job without an attempt to verify or alter the results of the Engineers' work. Close development was not made of this Cut, as the blue prints of the Engineers' surveys are available as soon as published.

GEOGRAPHIC NAMES:

Charted ones have been retained.

DANGERS AND ANCHORAGES AND CONTROLLING DEPTHS:

No dangers. Anchorages may be had almost anywhere in the proper depths, though in the main channels currents are swift and in places the holding ground is hard.

The controlling depth in the Inside Passage is in Ramshorn Cut supposedly kept at 7½ feet at M. L. W.

In Bull Creek the tides meet about 1½ miles south of May River. Here tide flats have developed forming a crooked channel with best water of about 2 feet at M.L.W.

Across the Bar into Broad Creek 11 ft. can be carried at M. L. W.

Seven feet can be carried through Cooper River into New River.

Thirteen feet or better can be carried up the May River to Bluffton; though the main body of May River has considerable depth there are many sand bars and some local knowledge is necessary to find the best water. There has been very little traffic up this river in recent years, though Bluffton had some importance in the past.

Mackeys Creek is not used, as it offers a less favorable passage than Skull Creek paralles to it. It can be used, however, as an alternate passage by those familair with it. It now has no aids to navigation as has Skull creek.

AIDS TO NAVIGATION:

The Inside Route is well marked with beacons and bouys. Locations of these are shown on the sheets. Angles for future location of the buoys, using natural objects, have been recorded for use by the Lighthouse Service.

There are no bridges on any of these sheets.

COAST PILOT INFORMATION:

This report will be prepared for the season's work considering the area as a whole.

Respectfully submitted

C.V. Egner Lieut.
Chief of Party.

Approved and forwarded

Report to accompany

Hydrographic Sheets

Nos. 18, 19, 20, 21

SIGNALS ON HYDROGRAPHIC SHEET

NO. 18

TOPOGRAPHIC

BEAK	GAR
BEND	COW
TON	ELK
DOS	TEX
LIT	BER
SON	IRA
SHEL	EX
WAY	HUB
DAV	SEV
CAN	FUN
TWIN	SUM
IN	AT
NEW	BLU
~~KKNE~~	TAX
END	SMALL
DALL	
UNE	
CAL	
BOB	
FLY	
LUU	
SAM	
MUD	
YOKE	
ARM	
TOP	
HILL	
DIM	
PAT	
CON	

TRIANGULATION

~~HYDROGRAPHIC~~

BACK 1931
NINE 1931
COOPER 1870
HORN U.S.E. 1931
BRAD 1931
FAR 2 1931
DO 1916
FRON 1931
BUCK 2 1931
FUSKY 1932
RAM 1932
BEACON NO.3 at Ram 1932

HYDROGRAPHIC STATISTICS TO ACCOMPANY SHEET NO. 18

VOLUME	DATE	DAY-LETTER	BOAT	SOUNDINGS	POSITIONS	MILES
1	6/20	a	OWANEE	386	91	15.0
	6/21	b	"	1113	259	39.7
1	6/22	c	"			
2	6/22	d	"	488	135	17.3
	6/25	d	"	407	103	15.5
	6/26	e	"	272	78	16.7
	6/27	f	"	414	114	19.2
2	6/28	g	"			
3	6/28	g	"	526	153	26.0
	6/29	h	"	590	151	22.4
	7/10	j	"	220	56	7.3
3	7/11	k	"			
4	7/11	k	"	120	33	6.3
	7/12	l	U-323	499	127	19.5
	7/13	m	OWANEE	62	18	3.6
	7/20	n	"	187	54	9.5
	7/24	p	"	316	96	13.2
4	7/25	q	U-323			
5	7/25	q	"	489	131	19.2
	7/26	r	"	515	150	16.0
	8/16	s	OWANEE	311	77	8.5
5	8/17	t	"	459	135	14.3
6	8/17	t	"			
	8/22	u	"	321	70	14.2
	8/23	v	"	111	31	3.4
	8/24	w	"	75	21	3.1
			Totals....7881		2083	279.9

LIST OF SIGNALS SHEET NO. 19-H-5568

TOPOGRAPHIC

FLY	JOY
PAM	WAT
MOND	RUN
DIE	DAM
SNAG	IT
UP	CENT
FIX	HOT
AL	EYE
LOW	FLYN
IS	LIT
MISS	COP
ON	MAR
TRES	ANT
DOS	FLAG
HER	KEY
VET	RUT
TOP	WIL
PIN	DOC
REC	OFF
LEE	SAP
ROY	EAST
HAM	PIL
TUG	OUT
BACK	PAR
JAY	DEN
MAL	CLAN
GO	TRE
LAG	MUG
STACK	FAT
DIG	SIN

TRIANGULATION

RAM 1931
NEW 1931
MAY 1931
MARSH 2 1931
ULMER 1933
BULL 1934
JESSIE 3 1931
SOUTH 1931
PETTIGREW 1933
MARTIN 1933
BLUFFTON 1933
COLE 1934

PHOTO SPOT

DOT
PEN
AIR

HYDROGRAPHIC STATISTICS TO ACCOMPANY SHEET NO. 19 H-5568

VOLUME	DATE	DAY-LETTER	BOAT	SOUNDINGS	POSITIONS	MILES
1	7/12	a	OWANEE	236	87	18.1
1	7/20	b	"	157	42	6.0
	7/24	c	"	137	34	7.6
	7/25	d	U-323	41	11	1.5
	7/27	e	OWANEE	505	139	14.3
1	8/2	f	"			
2	8/2	f	"	797	208	32.2
	8/3	g	"	573	164	19.2
	8/6	h	"	471	126	15.3
2	8/8	j	"			
3	8/8	j	"	665	190	23.7
	8/9	k	"	762	186	25.5
3	8Ø10	l	"			
4	8/10	l	"	596	153	21.3
	8/13	m	"	334	101	12.6
	8/14	n	"	202	52	7.0
			TOTALS.....5476		1493	204.3

HYDROGRAPHIC STATISTICS TO ACCOMPANY SHEET NO. 20a

VOLUME	DATE	DAY-LETTER	BOAT	SOUNDINGS	POSITIONS	MILES
1	7/30	a	SKIFF	72	18	1.8
	7/31	b	OWANEE	870	247	29.8
	8/1	c	SKIFF	564	154	16.3
			TOTALS....1506		419	47.9

HYDROGRAPHIC STATISTICS TO ACCOMPANY SHEET 20b

VOLUME	DATE	DAY-LETTER	BOAT	SOUNDINGS	POSITIONS	MILES
2	8/15	aa	OWANEE	362	89	12.7
	8/16	bb	"	98	22	2.9
			TOTALS....	460	111	15.6

LIST OF SIGNALS FOR HYDROGRAPHIC SHEET 20a H-5569

TOPOGRAPHIC

END
AL
CUT
NEST
JIM
WIL
MOL
BIG
RUT
HI
LOW
TRY
PAM
ROY
RAG

TRIANGULATION

MACK 1931
HAM 1931
DICK 1931
OYSTER 2 1931

LIST OF SIGNALS TO ACCOMPANY HYDROGRAPHIC SHEET 20b H-5569

TOPOGRAPHIC	PHOTO SPOT
POD	END
WAVE	DOS
REC	RAN
ON	LITE
FLY	TIP
FLAG	DO
ARM	TRI
DIM	BOX
	HEEL
	CAR
	TAR
	HOW

LIST OF SIGNALS TO ACCOMPANY HYDROGRAPHIC SHEET NO. 21a H5570

PHOTO SPOT

END	ODD
GIN	SAND
BE	IT
LAG	BUT
TIP	DOS
GAL	TWIN
UP	UNIT
BAR	TRES
RAY	

LIST OF SIGNALS TO ACCOMPANY HYDROGRAPHIC SHEET NO. 21b H5570

TOPOGRAPHIC

BER
EX
TEX

PHOTO SPOT

OFF	RUG
BI	LIT
IT	BALL
DON	TOP
END	DIKE
KEY	BUT
RICE	LAST
DOT	GAR

HYDROGRAPHIC STATISTICS FOR SHEET NO. 21 a, b.

H-5570

VOLUME	DATE	DAY-LETTER	BOAT	SOUNDINGS	POSITIONS	MILES
1	8/7	a	OWANEE	373	105	13.0
	8/20	b	"	357	76	12.9
	8/21	c	"	592	133	20.0
			TOTALS.....1222		314	45.9

CKG

80

POST-OFFICE ADDRESS: Box 408, Apalachicola, Fla.

20

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

Apr. 15, 1935.

To: The Director,
Coast and Geodetic Survey,
Washington, D. C.

From: C. A. Egner, Chief of Party.

Subject: Letters from Director, Apr. 9, regarding questions about Hydro. Sheets H-5570, and H-5569.

There are returned herewith the tracings from the above sheets forwarded here for additional notes. These notes have been made on the tracings., from information obtained from M. G. Elliott, Jr., Surveyor, who had charge of the field work.

Respectfully,

C. A. Egner

C. A. Egner.

" Information applied to smooth sheets.
April 28, 1935.
A.K.S.

POST-OFFICE ADDRESS: P. O. Box 408, Apalachicola, Fla.

TELEGRAPH ADDRESS:

80 EXPRESS ADDRESS:

62-EKG

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

May 17, 1935

1935 MAY -20- AM 10:00

To: The Director,
Coast & Geodetic Survey,
Washington, D. C.

From: C. A. Egner, Chief of Party.

Subject: Tracing from Sheet H-5569.

Returned herewith, is sketch showing questioned signal from Sheet H-5569. Note on the sketch should clear up this uncertainty.

Respectfully,

C. A. Egner

C. A. Egner, Lieut.,
Chief of Party #23.

Information noted

A.L.S

F D RAC

February 4, 1935

Division of Hydrography and Topography:

Division of Charts: **Attention Mr. E. P. Ellis**

Tide Reducers are approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 5568

Locality **May River, South Carolina**

Chief of Party: **C. A. Egner in 1934**
Plane of reference is **mean low water, reading**
1.4 ft. on tide staff at **Dafuskie Lighthouse**
21.1 ft. below **B.M. 1**

2.9 ft. on tide staff at **Triangulation Station SOUTH, Skull Creek**
19.4 ft. **below B.M. 2**

2.2 ft. on tide staff at **Bluffton**
25.4 ft. **below B.M. 1**

Height of mean high water above plane of reference is 7.2 feet at Dafuskie Lighthouse; 7.6 feet at Triangulation Station SOUTH; 8.1 feet at Bluffton.

Condition of records satisfactory except as noted below:

H. A. Marmer

Acting Chief, Division of Tides and Currents.

FE TWC

February 4, 1935

Division of Hydrography and Topography:

✓ Division of Charts: Attention Mr. E. P. Ellis

Tide Reducers are approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 5569

Locality Mackay Creek and Broad Creek, S. C.

Chief of Party: C. A. Egner in 1934
Plane of reference is mean low water, reading
1.4 ft. on tide staff at Dafuskie Lighthouse
21.1 ft. below B.M. 1

2.9 ft. on tide staff at Triangualtion Station SOUTH, Skull Creek
19.4 ft. below B.M. 2

Height of mean high water above plane of reference is 7.2 feet at

Dafuskie Lighthouse; 7.6 feet at Triangulation Station SOUTH

Condition of records satisfactory except as noted below:

H A Marmer
Acting Chief, Division of Tides and Currents.

Lac

February 4, 1935

F F

Division of Hydrography and Topography:

Division of Charts: **Attention Mr. E. P. Ellis**

Tide Reducers are approved in
1 volumes of sounding records for

HYDROGRAPHIC SHEET 5570

Locality **New River and May River, South Carolina**

Chief of Party: **C. A. Egner in 1934**
Plane of reference is **mean low water, reading**
2.8 ft. on tide staff at **Triangulation Station COW, Dafuskie Island**
16.0 ft. below **B.M. 1**

2.2 ft. on tide staff at **Bluffton**
25.4 ft. below B.M. 1

Height of mean high water above plane of reference is 7.3 feet at

Triangulation Station COW; 8.1 feet at Bluffton.

Condition of records satisfactory except as noted below:

H Marmer

Acting Chief, Division of Tides and Currents.

RAC

FE

February 4, 1935.

Division of Hydrography and Topography:

Division of Charts: **Attention Mr. E. P. Ellis**

Tide Reducers are approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 5571

Locality **Calibogue Sound, South Carolina**

Chief of Party: **C. A. Egner in 1934**
Plane of reference is **mean low water, reading**
1.4 ft. on tide staff at **Dafuskie Lighthouse**
21.1 ft. below **B.M. 1**

2.8 ft. on tide staff at Triangulation Station COW, Dafuskie Island
16.0 ft. below B.M. 1

Height of mean high water above plane of reference is 7. 2 feet

at Dafuskie Lighthouse; 7.3 feet at Triangulation Station COW

Condition of records satisfactory except as noted below:

H A Marmer

Acting Chief, Division of Tides and Currents.

To: Mr. Bacon
From: C.F.M.

Date. Jan. 8; 1935

GEOGRAPHIC NAMES
SOUTH CAROLINA

Survey No. H 5568
T-4608
Chart No. 1240

Diagram No. 1240-2

Names approved Jan. 14, 1935. N.M.B.

*, Approved by the Division of Geographic Names, Department of Interior. Harlow Bacon

¢, Not Approved by the Division of Geographic Names, Department of Interior.

R, Referred to the Division of Geographic Names, Department of Interior.

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	Crane Island ✓	Same 2 U.S.Eng.			
	Palmetto Ldg. ✓	" 2			
	Savage Island ✓	" 2			
	May River ✓	" 2			
	Bull Creek ✓	" 2			
	Bull Island ✓	" 2			
	Bryan Landing ✓	" 2			
	Barataria Island ✓	" 2			
	Marsh Island ✓	" 2			
	Broad Creek ✓	" 2			
	Jarvis Creek ✓	" 2			
	Jenkins Island ✓	" 2			
	Bull Point ✓	" Las End Pt. on U.S.E. 2			
	Pinckney Island ✓	" 2			
	Mackay Creek ✓	" 2			
	Skull Creek ✓	" 2			
	Note: The Names on this Sheet were inked on the Sheet by the Field				
	Bluffton ✓	1240 2 U.S.Postal Guide, July, 1934.			
	Hog Island ✓	1240 2			

(M 100)

To: Mr. Bacon
From C.F.M.

Date. Jan. 8, 1935

GEOGRAPHIC NAMES
SOUTH CAROLINA

Survey No. H 5569

Chart No. 1240

Diagram No. 1240-2

Names approved Jan. 14, 1935. HMS. Harlow Bacon

*, Approved by the Division of Geographic Names, Department of Interior.

¢, Not Approved by the Division of Geographic Names, Department of Interior.

R, Referred to the Division of Geographic Names, Department of Interior.

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
		2 U.S.Eng. Bluffton quad.			
	Colleton River ✓	Same			
	Colleton Neck ✓	" 2			
	Chechessee River ✓	" 2			
	Mackay Creek ✓	" 2			
	Pinckney Island ✓	" 2			
	Bull Point ✓	" 2			
	Hilton Head Island ✓	" 2			
	Broad Creek ✓	" 2			
	Buzzards Island ✓	2			Lat. 32 15' Long. 80 46'50"
	Note:				
	The Names in this Sheet were inked on the Sheet in the Field				

(M 100)

To: Mr. Bacon
From: C.F. M.

Date. Jan. 8, 1935

GEOGRAPHIC NAMES
SOUTH CAROLINA

Survey No. H 5570

Chart No. 1240

Diagram No. 1240-2

Names approved Jan. 15, 1935. Helen M. Strong. Harlow Bacon

*, Approved by the Division of Geographic Names, Department of Interior.

¢, Not Approved by the Division of Geographic Names, Department of Interior.

R, Referred to the Division of Geographic Names, Department of Interior.

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
			U.S.Eng, Bluffton quad. (2)		
	May River	Same	2		
	New River	"			
	Crane Island	"	2		

To: Mr. Bacon
From: C.F.M.

Date. Jan. 8, 1935

GEOGRAPHIC NAMES
SOUTH CAROLINA

Survey No. H 5571

Chart No. 1240

Diagram No. 1240-2

Names approved Jan. 15, 1935. H.M.S. Harlow Bacon

*, Approved by the Division of Geographic Names, Department of Interior.

¢, Not Approved by the Division of Geographic Names, Department of Interior.

R, Referred to the Division of Geographic Names, Department of Interior.

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	Pine Island ✓	Same U.S.Eng. Bluffton quad. (2)			
	New River ✓	" 2			
	Ramshorn Cut ✓	Descriptive Report T-5571, p.5.			
	Daufuskie Island ✓	" 2 U.S.G.B.			
	Cooper River ✓	" 2			
	Savage Island ✓	" 2			
	Bull Creek ✓	" 2			
	Calibogue Sound ✓	" 2			
	Hilton Head Island ✓	" 2			
	Broad Creek ✓	" 2			
	Buck Island ✓	" 2 Name applied to area as of T-3821			
	Pake Island ✓ ✓	Same			
	Note:				
	The Names on this Sheet were inked on the Sheet by The Field				
	Braddock Point ✓	Same 2			
	Hats Negud Point ✓	" 2 gives Higgs			U.S.G.B. decision
	Long Island ✓	" 2			

(M 100)

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. H-5568

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	1493
Number of positions checked	100
Number of positions revised	22
Number of soundings recorded	5476
Number of soundings revised	Many
Number of signals erroneously plotted or transferred	None

Date: March 1st 1935

Verification by Elbert W. Smith Time: (9-days)-(1¾-hours) 64¾ hrs.

Review by Harold W. Murray Time: 12½ hrs.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. H-5569

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	605
Number of positions checked	52
Number of positions revised	8
Number of soundings recorded	2131
Number of soundings revised	33
Number of signals erroneously plotted or transferred	None

Date: March 5, 1935.

Verification by J. A. McCormick Time: 50 hrs.

Review by John S. Ladd Time: 11½ "

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. 5570.

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	514
Number of positions checked	16
Number of positions revised	6
Number of soundings recorded	1222
Number of soundings revised	3
Number of signals erroneously plotted or transferred	.....

Date: February 12, 1935

Verification by R. S. Bagwell Time: 13 hours

Review by E. L. Strait Mar. 21. 1935 Time: 10 hr.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. 5571

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	2083
Number of positions checked	200
Number of positions revised	5
Number of soundings recorded	7881
Number of soundings revised	47
Number of signals erroneously plotted or transferred	0

Date: March 20, 1935

Verification by James M. McLuen [?] Time: 129 hrs.

Review by E. Riccigari [?] Time: 34 3/4

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. .....

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet .....

Number of positions checked .....

Number of positions revised .....

Number of soundings recorded .....

Number of soundings revised .....

Number of signals erroneously plotted or transferred .....

Date:

Verification by Time:

Review by Time:

SECTION OF FIELD RECORDS

VERIFICATION REPORT OF HYDROGRAPHIC SHEET-5568

1. The records conform generally to the requirements of the Hydrographic Manual. More remarks in regard to curving courses in the smaller side streams would have aided in the solution of the plotting of soundings.

2. There are not ~~true~~ many cross lines, but there are numerous cases of converging lines. Their agreement is generally good except in areas of steep sloping bottom. This differences were adjusted with respect to adjacent lines so as to show the general slope.

3. The usual depth curves can be completely drawn in most cases. The exception is along the banks of steep slopes in which the deepest and the shoalest curves were shown, omitting the intermediate ones to avoid congestion.

4. The field plotting was not completed to the extent perscribed in the Manual.

(a) No soundings were plotted for A day after position 4-A. This line ran along the river bank and converged with another line. However upon plotting these soundings in the office they were found to be important and therefore added.

(b) The protracting was checked by visual comparison with the Boat Sheet. Of the positions appearing to be in error and checked, about 20% were found incorrectly plotted and corrected in the office. Most of the positions plotted in error were so obvious as to lead the verifier to think the field plotter did not check his work against the Boat Sheet.

(c) Throughout the entire sheet, the soundings were penciled with such little regard to time interval as to convince the verifier that the soundings were plotted by eye and guess. As penciled by the field plotter discrepancies of soundings were numerous, a fact that did not seem to call for investigation on the part of the field plotter. But by using the spacing dividers practically throughout all of the time while verifying the sheet, these discrepancies were cleared up in the office.

5. The datum note was in error as given by the field party and has to be changed in the office. The value of the datum station was in error by 1° in latitude and 9-meters in longitude. Upon investigation of the projection it was found that excessive shrinkage existed, averaging about 1% in longitude, and .75% in latitude.

Triangulation Stations BLUFFTON, MARTIN, and PETTIGREW are listed in the Descriptive Report as 1933 stations but on the smooth sheet as 1934. A thorough search for the field computations for these stations was made but they could not be located. It is suggested that the information will be available by the time the review is made.

6. Junctions with H-5571 have not yet been made since that sheet is not completed.

The junction with H-5570 is on this sheet and is good.

The junction with H-5117 (1931) was good in the MAY RIVER and shown on this sheet. But the junction between Stations MAY and NEW was in such poor agreement that by order of the Assistant Chief of the Section a tracing of the overlapping ## portion of H-5117 is retained with this sheet for further investigation by the reviewing section before being shown on this sheet. It is recommended that due

to the time elapsing between the surveys and considering the area itself, that the discrepancies indicated do not actually exist. Discussed in Review.

7. The lines for (h-day) and (n-day), in the two smaller streams to the southward of MAY RIVER, are weak in horizontal control. Positions are too far apart and there are insufficient notes in the sounding records for these curving lines.

The Air Photo Compilation for this area is not yet available, therefore no comparison has been made. Several stations appearing outside the H°W° line are thought to be in marsh land and will be verified upon receipt of the Air Photo Comp.

Likewise the several docks located in (m-day) will be verified and completed when the AirPhoto Compilation is available.

8. Landmarks for Charts (Form 567) and Recoverable Stations (form 524) are filed with the Descriptive Report for T-6138-a and T-6138-b. No Special chart for the U.S. Lighthouse Service has been received.

Respectfully submitted,

Elbert W. Smith

Elbert W. Smith.

Date: March 1, 1935.

Verifier's Report of H-5569.

Records:

The records conform fairly well with the requirements of General Instructions. ✓ More notes concerning courses and ranges should be entered.

Protracting:

The protracting was good. The draftsman's only mistakes were due to erroneous angles or recording. ✓

Drafting:

Penciling of soundings was very poor. see review par 8 Soundings were spaced by eye and very poorly. Penciled figures were illegible in many places.

Crossings:

Close development caused some crossings see review par 2 which should have been adjusted by the field party but were not. These were adjusted by the verifier. No planned cross lines were run.

Curves:

Curves came in well after a few adjustments by the verifier. Curves drawn by field party were inaccurate. ✓ Curves along shoreline were broken in many places because of deep soundings.

Junctions:

* Junctions were made with H-5117 and H-5130 in Mackay Creek. These sheets were executed in 1931. Due to the changeable character of the bottom no overlap was plotted on H-5569. A few soundings from the older sheet were plotted outside the new work in order to continue the curves. It was thought inadvisable to give any weight to the old soundings in the overlap of the sheets. Junction with H-5571 on Broad Creek is not yet made.

* See par 4 of review

Remarks:

The air photo compilation for this area is not yet available. Signals spotted on photographs in Broad Creek could not be checked. ✓

March 5, 1935.

Submitted by,
J. A. McCormick.

April 30, 1935.

At reviewer's request Signals "Rec" and "On" located in Broad Creek were investigated by the verifier. Signal "On" was found to be on a dock. no evidence was found that Signal "Rec" was located on a dock and it was shown accordingly. No tops sheet was submitted by field party covering Signals "On", "Rec", "Flag", "Arm" "Wave" and "Pod" although all of these signals are shown as tops signals. An inspection of the boat sheet of this area leads to the conclusion that the field party did their topography by ~~the~~ using the boatsheet on a planetable. Intersections are plainly usable on the boatsheet.

JamcCormick.

Verifier's Report of H-5570

Records:

The Records appear to be well kept and conform to the requirements of the General Instructions.

Protracting:

The protracting was visually compared between the boat sheet and the smooth sheet. Sixteen positions were protracted and six of them changed. The work on this sheet was much better done than that on H-5528 which was by the same party and the same draftsman.

Drafting:

The soundings were in part spaced by eye and therefore mislocated; but for the most part, the spacing was fair. Drafting was otherwise all good.

Crossings:

There were no cross lines.

Curves:

Curves were very discontinuous because deep soundings fall close to shore.

Junctions:

Junction with H-5568 on the May River and with H-5571 on the New River is not yet made. These are the only junctions.

Comparison with Other Data:

No other contemporary data is yet available.

Remarks:

The only hazzard - except the zero shoals shown by the yellow curve - is "snags" mentioned at position 1.c; ϕ 32°-08.3', λ 80°-55.8'.

Submitted by,
F. S. Bagwell

February 12, 1935

Verification Report of H. 5571

Records.

The soundings ~~recorded~~ were very poorly ~~done~~ plotted with many being written illegibly and the remainder being drawn so lightly that after working on the sheet for a short time they also became impossible to read. The entire sheet was plotted without the use of spacing dividers resulting in deplorable spacing and making it necessary to respace each sounding as it was inked. Many figures were also recorded illegibly in the sounding records particularly the 3 and 5 which in many cases looked alike. Curves were also drawn through, instead of around soundings, which also made them impossible to read. *Sdgs. appear OK in vols. Criticism too critical.*

In the sounding records at the top of the column used to designate signals, "S" was often used when the same signals were used from one page to another, often making it necessary to turn back two of these pages to learn which signals were used. *Criticism entered in review violation par. 74 Hyd. Man.*

All $-\frac{1}{2}$ foot soundings were plotted as such instead of as 0.

New River had more than its share of wrong soundings. Forty-seven soundings were wrong on the entire sheet.

Snag called for at 67 h does not indicate whether it was to right or left of line. *Criticized in review. Plots near a 3 ft sdg. near shore — not considered a hazard.*

~~Projection~~ Protracting.

The ~~projection~~ protracting was not as good as is usually found on the smooth sheets. Six positions were changed and many more hit right on the edge *of the circle* of the protractor showing careless work.

Pos. 130r, lat. 32°08'.2, long. 80°49' was changed to agree with boat sheet; although the angles given in the sounding records checked with the smooth sheet, it was apparent that its location was wrong. This was also true of Pos. 129r and the same adjustment was made.

Pos. 75q, Vol. 5, page 5, lat. 32°07', long. 80°49'.7 was plotted out of position.

Pos. 32r, Vol. 5, page 20, lat. 32°06, long. 80°49'.4 was plotted out of position.

Pos. 114q was plotted out of position. Vol. 6, page 12. It was found to be a revolver.

~~Signals Ber and Tex do not check with location given in Vol. 5, page 54. Their location was also compared with topo. sheet T. 6140a and both appeared off in longitude. The projection on T. 6140a was not accurate which may account for some of the discrepancy.~~ ** The projection is nearly perfect on T-6140a* *Sigs. Ber and Tex are OK allowing for distortion of Hyd. Sheet. ~~The check cuts are from Hyd. sig. Elk and they are OK.~~ Elk slightly ~~out of position 0.5 ft in field plotting~~*

Signal Creigh<u>ton</u> was not underlined to indicate that TON was the abbreviation.

Numerous soundings fell off the bottom of the sheet so Sub-Plan "A" was added by the verifier.

As the air photo compilation has not been completed it was impossible to check the shore line.

Drafting.

Drafting was poor as explained in the forward part of this report.

Position 36u to 40u, lat. 32°06'.7, long. 80°54'.3, was plotted on smooth sheet in long sweeping curves but no reason could be found for doing this so the verifier placed them on a straight line. OK Change agrees with boat sheet.

Position 74q, Vol. 5, page 5, was reduced ~~in S-R~~ incorrectly; should be 19 instead of 9. ✓

Four foot sounding between 126t and 127t, lat. 32°07'.85, long. 80°53'.4, was questioned by plotter. Boat sheet plotting used. Smooth plotter evidently used wrong right angle

Crossings.

Most crossings checked very well in Calibogue Sound but none were made in the rivers.

Junctions.

Sheets H. 5568 and H. 5569 which joined the north edge of the sheet made a satisfactory overlap.

Sheet H. 5570 which joined the west edge of the sheet made a satisfactory overlap.

Sheet H. 5549 which joined the sound edge of the sheet and made an overlap with New River was satisfactory.

There was no contemporary sheet joining the smooth end of Calibogue Sound. The latest being H. 4154 (1920).

James M. McQueen Jr

Respectfully submitted by - J. McQueen.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5568 (1934)

May River, Calibogue Sound, South Carolina
Surveyed in 1934
Instructions dated December 5, 1933 (NATOMA)

Hand Lead Soundings — 3 Point Fixes on Shore Signals

Chief of Party - C. A. Egner.
Surveyed by - M. G. Elliott, Jr.
Protracted by - V. F. Simmons.
Soundings penciled by - V. F. Simmons and G. Fortune.
Verified and Inked by - E. W. Smith.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except as follows:

a. No copy of Landmarks for Charts on Form 567 accompanied this particular sheet. (Par. 168).

b. Geographic names were inked on the sheet by the field party instead of being left in pencil as required by Par. 160. Names of islands were inked in slanting lettering instead of vertical lettering, the accepted standard practice. This was not changed in the office.

c. A number of topographic signals fall outside the high water line but do not show the features on which they are located. However, most of these fall inside or very close to the low water line and are considered to be of a temporary nature.

d. There is a distortion on this sheet of 10 meters per thousand in longitude, which is considerably greater than that usually encountered on this type of paper.

The "Descriptive Report," although generalized in character and covering several surveys, is, nevertheless, clear and comprehensive and satisfactorily covers all matters of importance.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the instructions for the project, except that in a number of areas, as for example in lat. 32°11.3', long. 80°52.7', an additional line or lines would be of material value in the delineation of the depth curves.

3. Sounding Line Crossings.

Such cross lines as were run, as well as those that result from the work, are in good agreement with the main system of lines.

4. Depth Curves.

Within the limits of the survey, the usual depth curves may be satisfactorily drawn, including portions of the low water and 6 foot curves.

5. Junctions with Contemporary Surveys.

a. The junctions on the south with H-5571 (1934) and on the northwest with H-5570 (1934) are satisfactory.

b. The junction on the southwest in Broad River with H-5569 (1934) is satisfactory although there is no overlap of soundings.

c. The junction with H-5117 (1931) is satisfactory in the vicinity of lat. 32°12', long. 80°48', but in lat. 32°11.2', long. 80° 47.2' marked differences of 1 to 5 feet occur with depths on the present survey being deeper in some cases and shoaler in others. The larger differences may be due to the occurrence of unusually heavy storms between the periods of the two surveys or to discrepancies in control on the 1931 survey, which fact is emphasized by the relatively good agreement of soundings between the present and prior surveys in this vicinity. Only those soundings which were in good agreement were transferred from the 1931 survey, H-5117, to the present survey, and the combined soundings shown on the latter sheet should be used in charting this area.

6. Comparison with Prior Surveys.

a. H-804 (1862).

Soundings of this survey are generally in good agreement with those of the present survey, although a few areas vary 1 to 5 feet shoaler than those of the latter survey.

b. T-1195 (1870-71) and T-1196 (1870-71).

A study of the above topographic surveys containing hydrography (scale 1-20,000) in connection with the present survey reveals numerous changes in depths and shoals and a detailed comparison will serve no useful purpose. However, they contain no important shoals that are not adequately covered on the present survey.

c. H-4154 (1920).

The few soundings of this survey (scale 1-20,000) which fall within the limits of the present survey in the vicinity of lat. 32°11.2', long. 80°47.2' are in good agreement in some areas but vary 1 to 4 feet deeper in others. In view of the fact that the present survey is on a larger scale and in considerably greater detail, it is unnecessary to use the 1920 survey in future charting.

7. Comparison with Charts No. 571 and 1240.

a. Hydrography.

Within the area of the present survey, the above charts are based on surveys discussed in the foregoing paragraphs of this review and several U. S. Engineers' surveys of 1927 (Bp. 21,882 and 21,883) which cover Bull Creek and a small portion of May River, at the mouth of Bull Creek. Soundings are generally in good agreement with the present survey, although a few spots vary 1 to 3 feet shoaler in some cases and deeper in others. There are no important shoals on the Engineers' surveys that are not adequately covered on the present survey, and although the former surveys are on a larger scale and in considerably more detail, the Engineers' surveys should be superseded by the present survey. In this connection, the charted 11 foot sounding (actually 11.7) in lat. 32°12.7', long. 80°50.5' and the charted shoal (sounding of minus 0.7 feet) in lat. 32°12.6', long. 80° 50.7' which fall in depths of 13½ and 2 to 12 feet, respectively, on the present survey, appear to be leadsmen's errors, when analyzed on the Engineers' surveys, and should be disregarded in future charting.

b. Aids to Navigation.

The charted beacon in lat. 32°11.2', long. 80°47.0' is in excellent agreement with the position shown on the present survey.

8. Field Plotting.

Field protracting and plotting were accurate and conform to the requirements of the Hydrographic Manual except as follows:

a. A number of positions were obviously incorrectly protracted and necessitated corrections in the office.

b. Numerous soundings were plotted without regard to time intervals. Those so plotted were corrected in the office.

9. Doubtful Soundings.

The 3 foot sounding of line 128 to 129f (blue) falling near the middle of the channel in lat. 32°12.3', long. 80°48.3' appears to be a leadsman's error and should have been further investigated in the field. However, in view of the shoaling indicated by the 8 foot sounding to the westward, the sounding has been retained.

10. Additional Field Work Recommended.

Except as noted in paragraphs 2 and 9 of this review, the character of the survey is excellent and no additional field work is required.

11. Superseding Old Surveys.

Within the area covered, H-5568 (1934) supersedes the following surveys for charting purposes:

H- 804 (1862)	in part.
T-1195 (1870-71)	" "
T-1196 (1870-71)	" "
H-4154 (1920)	" "

12. Reviewed by - Harold W. Murray, May 25, 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

C. K. Green, C. K. Green.
Chief, Section of Field Records.

K. T. Adams
Acting Chief, Division of Charts.

Chief, Section of Field Work.

Chief, Division of H. & T.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5569 (1934)

Mackay Creek and Broad Creek, Port Royal Sound, South Carolina.
Surveyed in June - July, 1934
Instructions dated: December 5, 1933 (C.A.Egner)

Hand Lead Soundings - 3 Point Fixes on Shore Signals.

Chief of Party - C. A. Egner.
Surveyed by - M. G. Elliott, Jr.
Protracted and soundings penciled by - G. W. Schultz, G. Fortune.
Verified and inked by - J. A. McCormick.

1. Condition of Records.

The records are reasonably neat and legible and conform to the requirements of the Hydrographic Manual with the following exceptions:

a. Names of topographic features were lettered in slanting letters on the smooth sheet instead of in vertical ones.

b. A number of topographic signals fall outside the high water line but do not show the feature on which they are located. Most of these are inside or very close to the low water line. They are considered to be of a temporary nature and located on bars or sand spits which are bare except at high water.

*c. Topo. signal "Rec" at lat. 32°10.85', long. 80°46.62' was originally shown on the smooth sheet by the field party as on the end of a dock. The only authority for signal "Rec" is the Boat sheet for the present survey which was evidently used as a plane table sheet for cutting in this and a few other signals which fall outside the limits of the contemporary air photo control sheet. The air photo compilation sheet (H-5212) does not show a dock at this signal but does show one about 40 meters to the westward. Some doubt therefor exists as to the correct location of signal "Rec" which is of importance since it was used in the hydrographic development of the area. The matter has been referred to the field party for further information.

* Signal "Rec" not on dock, correctly shown on smooth sheet. See letter attached.

2. Compliance with Instructions for the Project.

The survey satisfies the instructions for the project with the following exceptions:

a. No regular system of cross lines were run as called for in par. 14, of the instructions.

b. The area in Broad Creek in the vicinity of lat. 32°10.95', long. 80°44.6' is insufficiently developed.

c. The waterway south of the island at lat. 32°10.6', long. 80°45.8' was not developed although there is indication at both ends of the island of navigable depths.

3. Sounding Line Crossings.

No regular system of cross lines were run. However those that do occur in the normal development of the work together with the parallel adjacent lines are in good agreement.

4. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn including most of the 12 foot curve and portions of the 6 foot curve.

5. Junctions with Contemporary Surveys.

The junctions with H-5130 (1931) on the north end of Machay Creek and with H-5117 (1931) on both the north and south ends of Mackay Creek are adequate. However a comparison between the 1931 surveys and the present survey shows sufficient changes in depths on, and along the edges of shoals to indicate the area is changeable. In view of the nature of the area and the adequate development on the present survey, none of the soundings from H-5130 (1931) and H-5117) (1931) should be used in charting the area covered by the present survey.

The junction with H-5571 (1934) on the south end of Broad Creek will be considered in the review of that survey.

6. Comparison with Prior Surveys.

a. H-804 (1862).

A comparison of this survey which covers a portion of Broad Creek with the present survey reveals numerous changes in depths and location of shoals and channels. Because of the time elapsed between the two surveys and general character of the area, it is unnecessary to consider in detail, the various changes noted. The present survey should supersede the old survey for charting purposes.

b. T-1195 (1870-71).

This topographic survey contains some original hydrography and overlaps the present survey along Mackay Creek. The development is quite sparse, although sufficient to reveal numerous changes in depths and locations of shoals and channels as well as changes in shoreline. The area is therefor considered to be a changeable one and a detailed discussion of the changes noted has been omitted.

The two 5 foot soundings, one of which is charted, in lat. 32°15.56', long. 80°46.3' fall on a shoal which was not closely developed on the present survey and the surrounding depths agree with the present ones. These have been added to the present survey and are the only soundings carried forward from T-1195 (1870-71).

c. H-4154 (1920).

This survey makes a small overlap with the present survey at the southern end of Broad Creek. The agreement is satisfactory.

7. Comparison with Chart No. 571.

Within the area of the present survey the chart is based on surveys discussed in the foregoing paragraphs and contain no additional information that needs consideration in this review.

8. Field Plotting.

The field plotting was satisfactory except that the spacing of soundings between positions was apparently done without reference to the time intervals recorded in the sounding volumes. This has been correctedin the office.

9. Additional Field Work Recommended.

Although Broad Creek was not closely developed as mentioned in par. 2b and c, this review, no additional field work is recommended because of its relative unimportance.

10. Superseding Old Surveys.

Within the area covered the present survey, with the indicated additions from previous surveys, supersedes the following surveys for charting purposes:

H-804 (1862) in part.
T-1195 (1870-71) in part.
H-4154 (1920) in part.
H-5117 (1931) in part.
H-5130 (1931) in part.

11. Reviewed by - John G. Ladd and R. L. Johnston, March 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

E. K. Green
Chief, Section of Field Records.

H. B. Borden
Chief, Section of Field Work.

R. C. Tolbert
Chief, Division of Charts.

G. Rude
Chief, Division of H. & T.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5570 (1934)

New River and May River, Vicinity of Tybee Roads, South Carolina.
Surveyed in July, 1934.
Instructions dated December 5, 1933 (NATOMA)

Hand Lead Soundings - 3 Point Fixes on Shore Signals.
and spotted positions from boat sheet.

Chief of Party - C. A. Egner.
Surveyed by - M. G. Elliott, Jr.
Protracted and soundings penciled by G. Fortune and C.A.E.
Verified and inked by - R. S. Bagwell.

1. Condition of Records.

The records conform to the requirements of the Hydrographic Manual except as follows:

a. Stamp No. 26 was completely filled out but it is believed that the two lines pertaining to the checking of the Hydrographic signals should have been altered to read "Air Photo Compilation Signals".

2. Compliance with Instructions for the Project.

This survey satisfies the instructions for the project except as follows:

a. Another line should have been run in the middle of the New River at Lat. 32°09'.15, Long. 80°57'.12, and Lat. 32°09'.00 Long. 80°58'.02.

b. The area in New River in Lat. 32°07'.85, Long. 80°56'.8 which is in the vicinity of the sand bar shown on T-1196 (1870-71), see paragraph 6bof this review, should have been better developed.

3. Sounding Line Crossings.

No cross lines were run. They are considered unwarrented in such narrow water ways. However, soundings on the lines run parallel to the shore show satisfactory agreement.

4. Depth Curves.

The depth curves may be satisfactorily drawn.

5. Junctions with Contemporary Surveys.

The junction in the May River on the east with H-5568 (1934) is satisfactory. The junction in the New River on the east with H-5571 (1934) will be considered in the review of that sheet.

6. Comparison with Prior Surveys.

The only prior survey within the limits of the present survey is T-1196 (1870-71) which contains hydrography in the New River to Lat. 32°08'.6.

a. The soundings on T-1196 (1870-71) are in fair general agreement with those of the present survey.

b. A sand bar is shown on T-1196 (1870-71), Lat. 32°07'.85, Long. 80°56'.8 which does not appear on the present survey. The gap in the sounding at this point on H-5570 (1934) was not accounted for in the records of the present survey. Inasmuch as the soundings in the vicinity were run at low water, it is possible the field party may have observed a bare area here but failed to note it in the records. This matter has been referred to the field party, and will be disposed of finally when information is received.

Information supplied and added to sheet (see tracing and letter attached) Apr. 23/1935.

7. Comparison with Chart 1240.

Within the area of the present survey the chart is based on surveys discussed in the foregoing paragraphs and contains no additional information that needs consideration in this review.

8. Field Plotting.

The field protracting and plotting are satisfactory except that soundings were, in many cases apparently spaced by eye instead of by spacing dividers in accordance to the recorded time.

9. Additional Field Work Recommended.

In view of the relative unimportance of the area as noted in the Descriptive Report, page 2, no additional work is recommended.

10. Superseding Old Surveys.

Within the area covered, the present survey supersedes the following survey for charting purposes:

T-1196 (1870-71) in part (Hydrography only)

11. Reviewed by Leo S. Straw, and R. L. Johnston, March 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

C. K. Green, C. K. Green.
Chief, Section of Field Records.

L. O. Colbert
Chief, Division of Charts.

T. S. Borden
Chief, Section of Field Work.

G. Rude
Chief, Division of H. & T.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5571 (1934)

Calibogue Sound, Vicinity of Tybee Roads, S. C.
Surveyed in 1934
Instructions dated December 5, 1933 (NATOMA)

Hand Lead Soundings - 3 Point Control on Shore Signals.

Chief of Party - C. A. Egner.
Surveyed by - M. G. Elliott, Jr.
Protracted by - G. W. Schultz and V. F. Simmons.
Soundings penciled by - V. F. Simmons.
Verified and inked by - J. M. McQueen, Jr.

1. Condition of Records.

The records conform to the requirements of the Hydrographic Manual with the following exceptions:

a. Names of objects were not repeated at the top of each page of the sounding records as required by paragraph 74 of the Hydrographic Manual.

b. The records do not indicate on which side of line at position 67h (lat. 32°08'.02, long. 80°52'.2) a snag exists.

c. There is a distortion on this sheet of 8.2 meters per thousand in longitude which is considerably greater than that usually encountered on this type of paper.

2. Compliance with Instructions for the Project.

The survey fulfills the requirements of the instructions for the project except that cross lines were not run in all portions of the river area. (par. 14).

3. Sounding Line Crossings.

Agreement of depths at crossings is very good and where no crosslines have been run, the adjacent lines generally are in good agreement.

4. Depth Curves.

The usual depth curves can be satisfactorily drawn including most of the low water line.

5. Junctions with Contemporary Surveys.

a. H-5549 (1934), H-5568 (1934), H-5569 (1934), H-5570 (1934).

The junction with these surveys is satisfactory and the agreement in depth is good.

b. H-4154 (1920).

The present survey, at its southern limits in Calibogue Sound, is in good agreement with this survey except that the 6 foot curve south of Braddock Pt. has changed slightly.

6. Comparison with Prior Surveys.

a. H-439 (1854).

This survey affects the present survey only at the mouth of Calibogue Sound and has no outstanding feature that needs be carried forward. The depths in general are in fair agreement with the present survey.

b. H-804 (1862).

This survey covers a considerable portion of the present survey in Calibogue Sound and the mouth of Cooper River and reveals many changes in the depths.

An 18 foot sounding (uncharted) in lat. 32°09'.45, long. 80°48'.5 falls in depths of 29 feet on the present survey. Comparison of the surrounding depths on the present survey as well as H-4154 (1920) indicates that a general deepening has occurred and that in all probability the 18 foot shoal no longer exists. Similar conditions appear elsewhere, and in all cases, the differences in depth appear to be due to general changes.

c. H-944 (1866) and H-966 (1866)

Only a few soundings fall on the present survey at the mouth of Calibogue Sound and are in fair agreement.

d. T-1196 (1870) (contains Hydrography)

This survey on a scale of 1-20,000 covers the Cooper River and a portion of New River. A comparison reveals numerous changes in depths and shoals. Because of the time elapsed since the earlier survey, the general character of the area and the nature of the bottom, it is unnecessary to consider in detail, from the standpoint of information to be carried forward, the various changes noted.

e. H-2296 (1897).

This survey overlaps the present survey at the mouth of Calibogue Sound and is in good general agreement. It shows shoaler depths on the middle ground shoaling in approximate lat. 32°06'.2, long. 80° 50'.0 than the later surveys which did not develop it closely. Soundings on this shoal have been added to the present survey.

f. H-4154 (1920).

This survey on a scale of 1-20,000 covers the area in Calibogue Sound. In the deeper areas it is in good general agreement with the present survey, however there are slight differences in the shoal inshore areas. Since the present survey is on a larger scale and in considerably greater detail, it is unnecessary to use H-4154 (1920) in future charting. However, the following soundings have been carried forward to the new survey because the latter does not entirely disprove their existence.

(1). The 22 foot sounding (charted) in lat. 32°06'.72, long. 80°49'.83 falls in depths of 34 to 35 feet on the present survey. It is the first sounding obtained on a line and it appears probable that it is erroneous.

(2). The 23 foot sounding (charted) in lat. 32°08'.6, long. 80° 49'.37 falls in depths of 27 to 29 feet on the present survey, which however shows a 23 foot sounding about 100 meters to the southeast. The new survey shows a pronounced shoaling in this vicinity.

7. Comparison with Charts No. 571 and 1240.

a. Hydrography.

Within the area of the present survey the charts are based on surveys discussed in the foregoing paragraphs and the U. S. Engineer's survey of 1927 (B.P. 21,882). The latter covers Bull Creek and a small part of the Cooper River at the mouth of the creek. The Engineer's survey develops the area more closely than the present survey, however the two are not in close agreement. The present soundings indicate that some changes have occurred. For this reason BP. 21,882 (1927) should be superseded by the present survey.

b. Controlling Depths.

The controlling depth of 7½ feet charted in Ramshorn Cut (Letter 475, 1934) is maintained by the U. S. Engineers, who survey the area periodically. The present survey ran two sounding lines which show a little deeper depths, but no attempt was made to completely survey this cut. (See D.R. page 6). The controlling depth of 7½ feet should be retained on the chart.

c. Aids to Navigation.

The charted aids to navigation are in substantial agreement with the positions as located on the present survey except as follows:

(1). Rear range light at the entrance to Cooper River was located by triangulation approximately 110 meters south of its charted position.

The position of the light was charted from N. to M., 1924 (No. 1151) and is evidently out of position on the charts.

(2). Beacon No. 4, Cooper River was located by the topographic party approximately 180 meters southwest of its charted position. The position of the beacon was charted from a section of a chart submitted by the Lighthouse Bureau on which the beacon was spotted.

(3). The horizontal striped buoy at the mouth of the Cooper River was located about 100 meters south of its charted position.

8. Field Plotting.

a. The protracting was done only fairly well.

b. The plotting of soundings was not accurately done. Soundings between positions were apparently spaced by eye and required additional time of the verifier to respace them.

9. Additional Field Work Recommended.

(1). The 22 foot sounding carried forward from H-4154 (1920) in lat. 32°06'.72, long. 80°49'.83 appears to be about 2 fathoms in error. It should be investigated.

(2). The present survey obtained a 23 foot sounding in lat. 32° 08'.57, long. 80°49'.3 surrounded by deeper depths. A 23 foot sounding is also shown nearby on H-4154 (1920). As a distinct shoaling is indicated at this spot a closer development is desirable.

10. Superseding Old Surveys.

Within the area covered the present survey, with the indicated additions from previous surveys, supersedes the following surveys for charting purposes:

H-439	(1854)	in part.	
H-804	(1862)	in part.	
H-944	(1866)	in part.	
H-966	(1866)	in part.	
T-1196	(1870)	in part.	(contains hydrography)
H-2296	(1897)	in part.	
H-4154	(1920)	in part.	

11. Reviewed by G. Risegari and R. L. Johnston, March 29, 1935.

Inspected by A. L. Shalowitz.

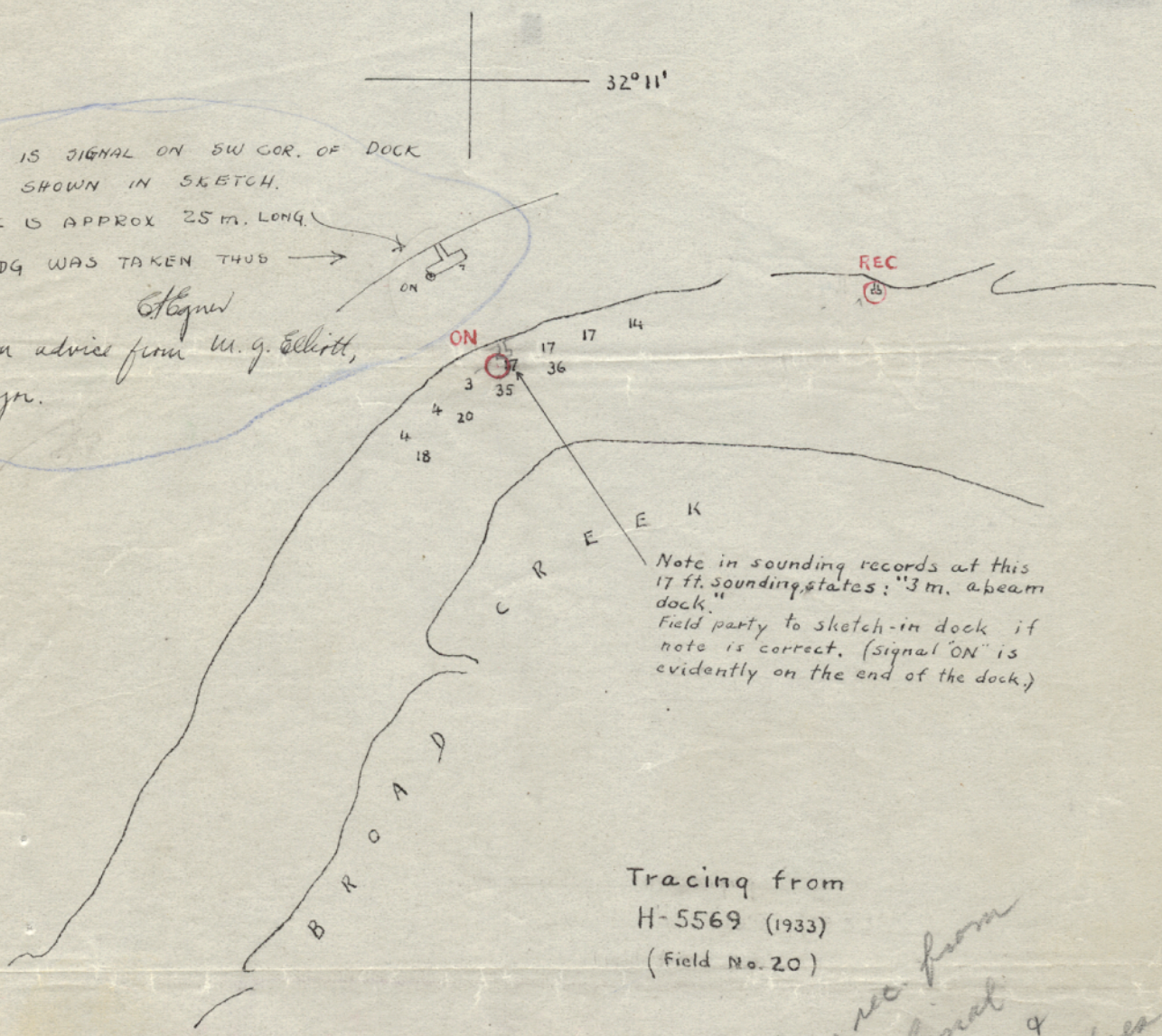
Examined and approved:

C. K. Green, C. K. Green.
Chief, Section of Field Records.

L. C. Dolbeer
Chief, Division of Charts.

T. S. Borden
Chief, Section of Field Work.

G. Rude
Chief, Division of H. & T.



T-5212 ?

Information re from field before final typing of reviews & therefore this item does not appear in review

CKG

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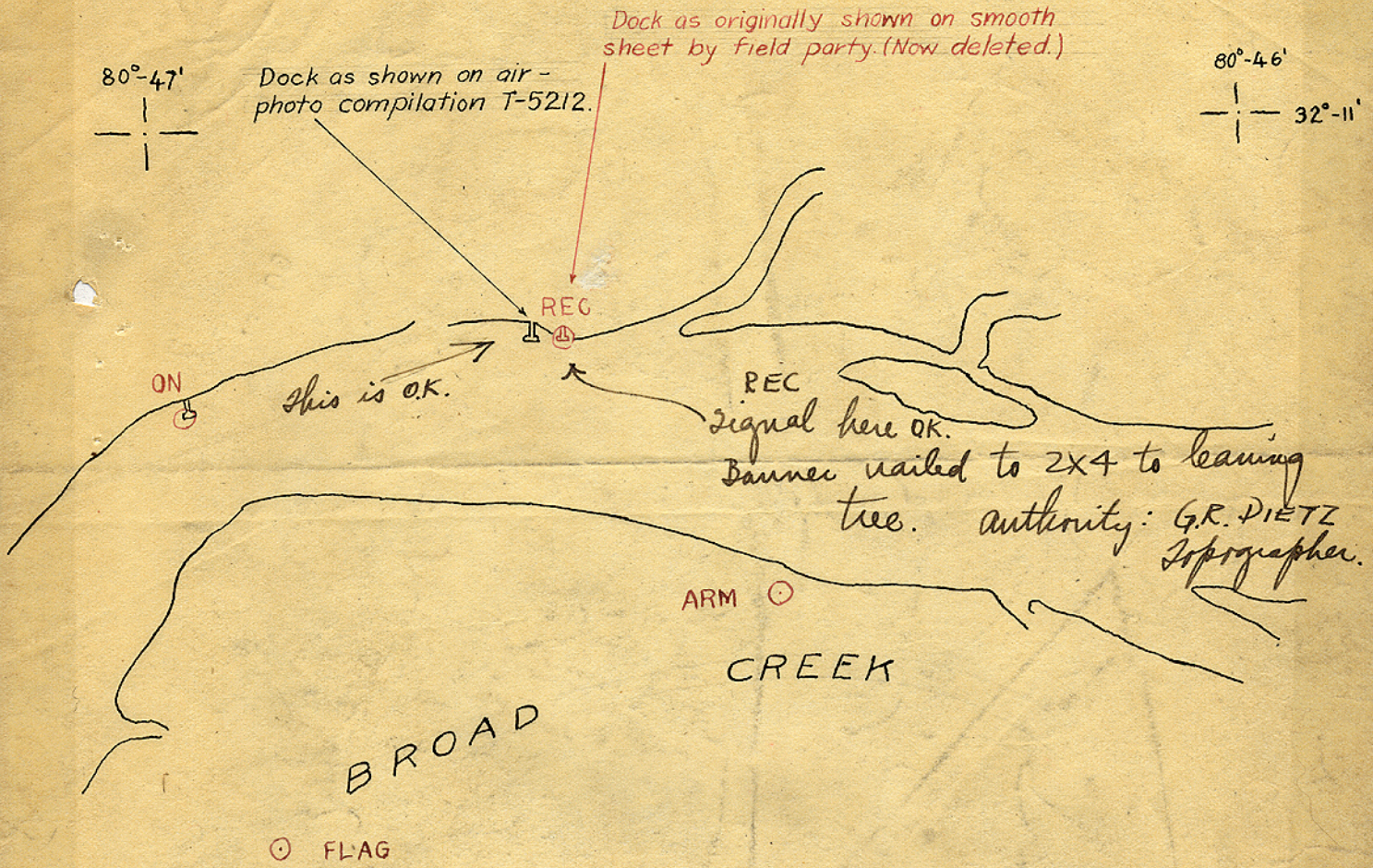


TRACING FROM H-5569
(MACKAY CREEK & BROAD CREEK)

FIELD SHEET 20 SCALE 1:10,000

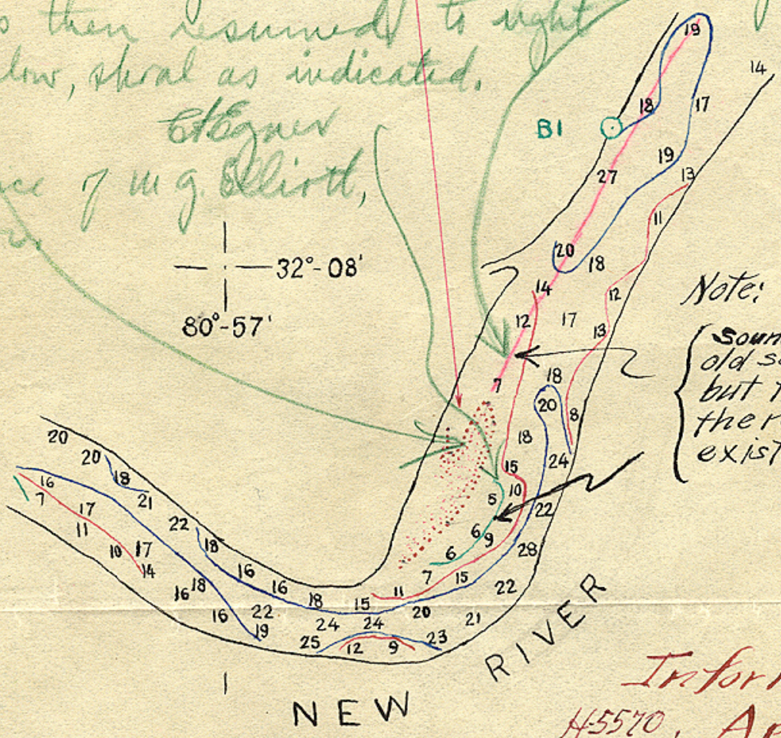
32°-10'

SAND BAR SHOWN IN RED FROM T-1196 (1870-71)

Bar is still there as indicated. Sounding line was run until grounding occurred beyond 7' sdg. Line was then resumed to right of, and below, shoal as indicated.

E. Egner

upon advice of M. G. Elliott, Surveyor.



Note: Sounding lines adjacent to old sand bar run at low water, but there are no notes in the record indicating the existence of the bar.

Information Applied to H5570, Apr. 23.1935 [illegible]

TRACING OF A SECTION OF NEW RIVER
FROM H-5570

HYDROGRAPHIC SHEET 21 SCALE 1:10,000

Hyd 5569 applied to Cht. 571, May 15, 1935
Hyd. 5571 applied to Cht. 571, May 24, 1935
K. Reynolds
Hyd. 5568 applied to Cht. 571, June 27, 1935
K. Reynolds

Hyd. 5571 applied to chart 440, Aug. 31, 1936
G. H. S.
Hyd. 5570 applied to chart 440, Sept. 1, 1936
G. H. S.